

ABSTRACT OF THE DISCLOSURE

In transcoding a frequency transform-encoded digital video signal representing a sequence of video frames, a foveated, compressed digital video signal is produced and transmitted over a limited bandwidth communication channel to a display according to the following method: First, a frequency transform-encoded digital video signal having encoded frequency coefficients representing a sequence of video frames is provided, wherein the encoding removes temporal redundancies from the video signal and encodes the frequency coefficients as base layer frequency coefficients in a base layer and as residual frequency coefficients in an enhancement layer. Then, an observer's gaze point is identified on the display. The encoded digital video signal is partially decoded to recover the frequency coefficients, and the residual frequency coefficients are adjusted to reduce the high frequency content of the video signal in regions away from the gaze point. The frequency coefficients, including the adjusted residual frequency coefficients, are then recoded to produce a foveated, transcoded digital video signal, and the foveated, transcoded digital video signal is displayed to the observer.